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B2E EKB E423T E461T E463T E626T

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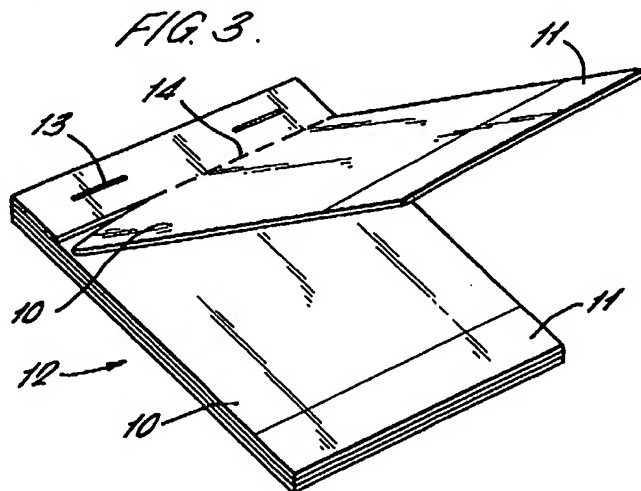
(58) Field of Search

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INT CL<sup>7</sup> A61L 9/015 9/04 9/12  
ONLINE: WPI,EPODOC, JAPIO

(54) Abstract Title

**An air freshening or purifying sheet**

(57) A sheet 10 having a substrate being provided with an air freshening or purifying composition, and wherein a magnet or releasable adhesive 11 is applied to at least one region of a surface of the substrate. The composition may be coated onto the substrate or impregnated therein. The composition may be a gel resulting from the cross-linking in situ of a homopolymer or copolymer in the presence of a perfuming, deodorising or insecticidal base. The adhesive or magnet may be applied to the opposite side of the sheet to the composition. A collection of the sheets may be provided where the sheets are releasably held together so that one sheet may be removed at a time. This may take the form of a booklet 12. The sheets may be held by the adhesive regions thereon, or by staples 13. The sheets may be provided with perforations 14, enabling a sheet to be torn from the collection. The sheets may be separated from each other by a wax sheet. Each sheet may be individually wrapped in an impermeable envelope or package.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

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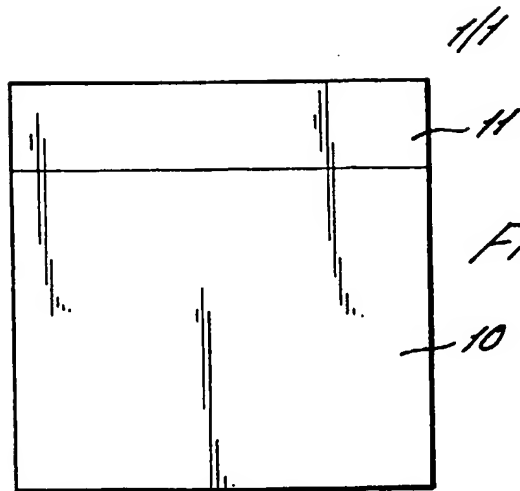


FIG. 1.

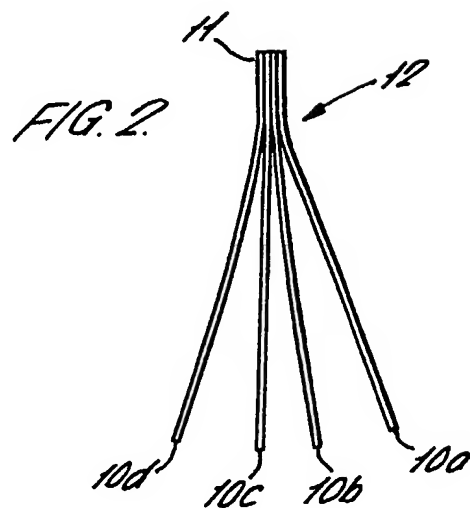


FIG. 2.

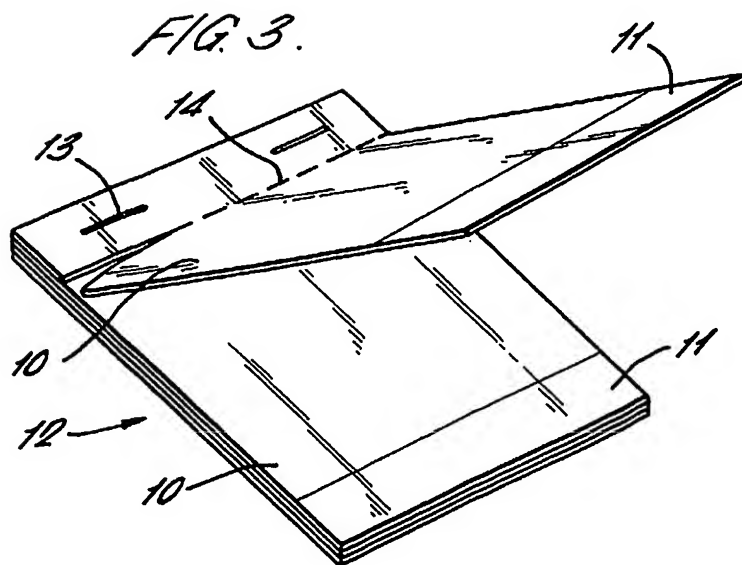


FIG. 3.

IMPROVEMENTS IN OR RELATING TO COMPOSITIONS

5 The invention relates to improvements in or relating to air freshening or purifying devices in the form of sheets.

Air freshening and purifying devices are used in many forms, such as plastic containers, jars, impregnated rings and the like. These contain, or are impregnated with, a fragrance which evaporates over a  
10 period of time and is released into the atmosphere. In this specification the term "fragrance" may be a simple perfume, but also includes a deodorant which itself may or may not be perfumed. The term "air purifying is intended to include compositions having  
15 disinfecting and insecticidal capabilities.

Such device are typically bulky as they are intended to be used for a reasonable period of time, typically several weeks or months, and therefore need to include sufficient fragrance to last for that  
20 period of time. Such devices also usually require a surface on which to sit undisturbed or a place from which to be hung.

However there is a need for shorter term air fresheners, and ones that can be placed anywhere.

25 It is therefore an object of the present invention to overcome these disadvantages.

According to the invention there is provided an air freshening or purifying sheet comprising a substrate in the form of a sheet having opposing  
30 surfaces, wherein a magnet or releasable adhesive is applied to at least one region of one of said surfaces, said substrate further being provided with an air freshening or purifying composition.

There is also provided a collocation of air  
35 freshening or purifying sheets as defined above in which a plurality of said sheets are releasably held together so that one sheet at a time may be removed from the collocation.

A preferred embodiment of the present invention  
40 will now be described by way of example only, with

reference to the accompanying drawings in which:-

Figure 1 is a rear elevation of an air freshening sheet according to the present invention;

Figure 2 is a side elevation of a collocation of air freshening sheets in the form of a booklet; and

Figure 3 is a plan view of an alternative form of booklet.

Referring first to Figure 1 there is shown an air freshening sheet 10 comprising a substrate formed from a thin sheet of material having a thickness of from 0.1 to 4mm, especially 0.5 to 2mm. The material may be a permeable or porous material such as paper or card or an impermeable plastic material. Although the drawings illustrate a square sheet 10, the actual shape of the sheets 10 is not important. The sheet 10 may conveniently be of the size 2cm x 7cm, although any convenient size may be used.

On one surface of the sheet 10 there is provided a magnet or releasable adhesive 11 sited on the whole of the surface or in a limited region. This may be along one edge as illustrated, or the magnet or adhesive region 11 may be provided at any location on the sheets 10. Alternatively a plurality of small magnetic regions or adhesive regions may be used on each sheet 10. The adhesive 11 may be a standard contact adhesive, which desirably may be releasably attached to a desired surface such as a wall or dashboard of a car. A magnet may be used to attach the sheet 10 to a metallic surface such as a refrigerator door. A permanent magnet or a coating of a magnetizable material may be used.

At least a second region of the sheet 10, if not the whole sheet 10, is provided with an air freshening (fragrancing or air purifying) composition. Where permeable materials are used, the sheets 10 may be either impregnated with a suitable composition such as

a gel or coated with a suitable composition. The gel may be as described in, for example, US-A-5780527. Thus it is, for example, a gel resulting from the cross-linking, in situ of a homopolymer or copolymer  
5 in the presence of a perfuming, deodorising or insecticidal base. A suitable copolymer is maleinised polybutadiene or polyisoprene such as Lithene, N4-9000 10MA (Registered Trade Mark) obtainable from Revertex Limited. Suitable cross-linking agent, for example a  
10 cocoamine having 5 oxyethylene units per molecule sold under the name Crodamet (Registered Trade Mark) obtainable from Croda Chemicals Limited.

Alternatively, with impermeable materials a layer of the composition may be applied to a surface of the  
15 sheets 10. The nature and quantity of the composition applied is selected to provide a relatively short term dissipation of, say, three days to four weeks, for example about one week.

The sheet 10 can be applied to any convenient  
20 surface such as a wall, shelf, window sill, an item of furniture or car dashboard etc., simply by placing the region bearing the adhesive 11 into contact with the surface. When the air freshening composition has dissipated or the air freshening action is no longer  
25 required the sheet can simply be peeled from the surface to which it has been applied, and disposed of.

Such air freshening sheets 10 can conveniently be supplied in a number of different formats. Once such format is shown in Figure 2, whereby a collocation of  
30 sheets 10a, b, c, d are placed together in a coherent manner to form a booklet 12, such that the adhesive 11 on one sheet 10a adheres to an adjacent sheet 10b. When a sheet 10 is required for use, the top one is simply peeled from the booklet 12, leaving the  
35 remaining sheets 10 for future use.

An alternative form is illustrated in Figure 3 in which a number of sheets are securely held together at one end by staples 13, or other suitable means. When a sheet 10 is required for use the top one is removed  
40 by tearing it along a perforated line 14. If the

adhesive regions 11 are provided on the sheets 10 at the opposite end to the staples 13, this helps to keep the leaves of the booklet 12 closed.

5 In a further alternative arrangement, a plurality of sheets 10 can be provided on discrete sheets of a carrier layer, or even a continuous elongate carrier layer, e.g. waxed paper, in a similar manner to the way in which labels are provided.

10 In yet another embodiment a single elongate strip may be provided e.g. in a roll, with a plurality of sheets 10 separated by a row of perforations. Each sheet 10 can be torn off as and when required, in a similar manner to toilet tissues.

15 In yet another embodiment of the invention, each air freshening sheet 10 within a booklet 12 is separated by a non-air freshening layer. This has the advantage that as the top sheet 10 is removed from the booklet 12, the next sheet is not immediately exposed to the atmosphere. The non-air freshening layers are  
20 conveniently provided by waxed paper or an impermeable substrate.

The air freshening sheets 10 may also be provided in a form where each sheet is individually wrapped in an impermeable envelope. In this embodiment, the  
25 envelopes may be securely bound or bonded together to form a booklet and each envelope can be torn off from the booklet.

The air freshening composition may comprise a fragrance, a disinfectant or an insecticide.  
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CLAIMS:

1. An air freshening or purifying sheet comprising a substrate in the form of a sheet having opposing surfaces, wherein a magnet or releasable adhesive is applied to at least one region of one of said surfaces, said substrate further being provided with an air freshening or purifying composition.
2. An air freshening or purifying sheet as claimed in claim 1 in which at least a portion of the substrate is impregnated with said composition.
3. An air freshening or purifying sheet as claimed in claim 1 in which said composition is applied to at least a portion of the other of said surfaces of the substrate.
4. An air freshening or purifying sheet as claimed in any one of the preceding claims in which a releasable adhesive is applied to at least one of said surfaces.
5. An air freshening or purifying sheet as claimed in any one of the preceding claims in which the magnet or releasable adhesive is applied to a plurality of regions of the surface of the substrate.
6. An air freshening or purifying sheet as claimed in any one of claims 1 to 4 in which the magnet or releasable adhesive is applied to the whole of one surface of the substrate.
7. An air freshening or purifying sheet as claimed in any one of the preceding claims in which the said composition is a gel composition resulting from the cross-linking in situ, of a homopolymer or copolymer in the presence of a perfuming, deodorising or insecticidal base.

8. A collocation of air freshening or purifying sheets as claimed in any one of the preceding claims in which a plurality of said sheets are releasably held together so that one sheet at a time may be removed from the collocation.

9. A collocation of air freshening or purifying sheets as claimed in claim 8 in which the sheets are held together by the adhesive regions.

10. A collocation of air freshening or purifying sheets as claimed in claim 8 in which the sheets are held together by mechanical means.

11. A collocation of air freshening or purifying sheets as claimed in claim 10 in which the mechanical means comprise staples.

12. A collocation of air freshening or purifying sheets as claimed in claim 8 in which each sheet is provided with perforations, enabling the sheet to be torn from the collocation.

13. A collocation of air freshening or purifying sheets as claimed in any one of claims 8 to 12 in which the sheets are separated by a non-air freshening sheet.

14. A collocation of air freshening or purifying sheets as claimed in claim 8 in which each sheet is individually wrapped in an impermeable envelope and the envelopes are secured together such that each envelope can be removed from the collocation one at a time and the sheet removed from the envelope.

15. A collocation of air freshening or purifying sheets as claimed in any one of claims 1 to 7 provided in a container.

16. A collocation of air freshening or purifying sheets as claimed in claim 15 in which each sheet is



individually wrapped in an impermeable envelope.

17. An air freshening or purifying sheet  
substantially as hereinbefore described with reference  
5 to and as shown in the accompanying drawings.

18. A collocation of air freshening or purifying  
sheets substantially as hereinbefore described with  
reference to and as shown in Figure 2 or 3 of the  
10 accompanying drawings.

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INVESTOR IN PEOPLE

Application No: GB 0112925.3  
Claims searched: 1-18

Examiner: Chris Archer  
Date of search: 22 November 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): A5G

Int Cl (Ed.7): A61L (9/015, 9/04, 9/12)

Other: ONLINE: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	EP 0188883 A (3M) see whole document	1,2 4-6, 8-13
X	US 4649046 (KROSS) see whole document	1-7
X	US 4283011 (SPECTOR) see in particular the figures	1-6
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X	WPI abstract accession no. 1998-125102 [12] & JP 10006448 A (KORARU) 13.01.1998 (see abstract)	1-6

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.